



N2Africa Action Areas in Ethiopia, Ghana, Nigeria, Tanzania and Uganda in 2014

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N2Africa

**Putting nitrogen fixation to work
for smallholder farmers in Africa**



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1. Spatial Units in N2Africa

The spatial units of N2Africa are where N2Africa has dissemination activities, where agronomic trials are conducted, where household surveys are taken and where beneficiaries are targeted. There are three levels of spatial units (Table 1).

Table 1. Spatial units in N2Africa

	Ethiopia	Ghana	Nigeria	Tanzania	Uganda
Target Region	Modified Region	Region	State	Agricultural research Zone	Agro-ecological Zone
Action Area	Woreda	District	LGA	District	District
Site	Kebele	Village	Ward Village /	Ward	Parish

1.1 Target Region

In each country a number of target regions have been identified. These target regions typically correspond to geographic regions with specific characteristics in terms of agro-ecology, climate and prevalence of crops. The target regions are specific to N2Africa and are used mainly for organising the agronomy activities and impact assessment but are composed of smaller official administrative units.

1.2 Action Area

Action areas are sub-national administrative area within an N2Africa target region and are the principal unit on N2Africa maps. Often each action area will have a designated government agricultural extension officer. Project beneficiaries can be targeted as a proportion of the population residing in a specific action area.

1.3 Site

Within each action area a selection of specific localities such as villages or wards will be selected for the purpose of socioeconomic surveys, agronomic trials and dissemination activities. In the N2Africa project these localities are called 'sites'. The actual farmer's field where an agronomic trial is set up is referred to as a 'trial location'.



2. Details of spatial units for N2Africa core countries

2.1 Action Areas for Ethiopia in 2014

This map shows the N2Africa Action Areas for 2014 (Table 2), with the background of broad agro-ecological zones based on the length of growing period (Figure 1).

Table 2. N2Africa Action Areas in Ethiopia Target regions in 2014

Target region	Action Area (Woreda)
Amhara	Bichena
	Dabat
	Debark
	Farta
	Gonder Zuria
	Yilmana-Densa
Pawe	Dibate
	Jawi
	Mandura
	Pawe
Oromia – Debre Zeit	Ada'a
	Gimbichu
Oromia - Sinana	Agarfa
	Goba
	Sinana
Oromia - Bako	Bako-Tibe
	Chewaka
	Gobu-Sayo,
	Kersa
	Sibu-Sire
	Wayu-Tuka
	Ilu-Gelan
SNNPR	Alaba
	Shalla
	Boricha
	Damot Gale
	Meskan

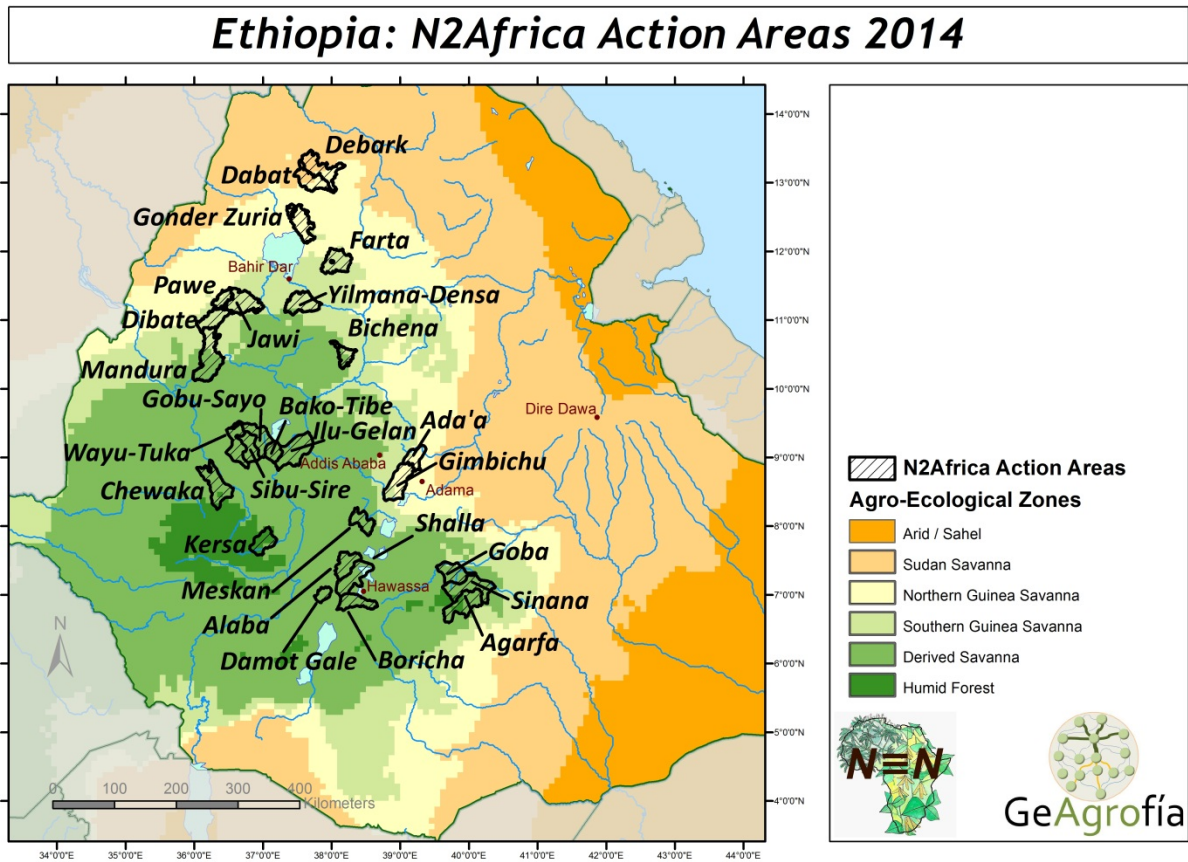


Figure 1. N2Africa Action Areas in Ethiopia in 2014



2.2 Action Areas for Ghana in 2014

This map shows the N2Africa Action Areas for 2014 (Table 3), with the background of broad agro-ecological zones based on the length of growing period (Figure 2).

Table 3. N2Africa Action Areas in Ghana Target regions in 2014

Target region	Action Area (District)	Site (Community / Village)
Northern	Chereponi	Tombu, Chomboso, Nabu Joku, Nansoni, Akromabila, Naboni, Nanchem, Kpenchi, Nandere, Namalgu, Tusunga, Jailpa, Ando-Kajura, Kpaboku
	Savelugu	Nyoglo, Behinaayili, Zaaza, Yong, Nyerigiyili, Damdu, Challam, Totenyili, Savelugu, Kuduzegu, Sankpem, Bunglung, Yemo, Botingli
	Yendi	Kulkpanga, Gundogu, Dikpon, Tusani, Lumpure, Pion, Naglogu, Sunson, Gbemba, Zang, Nalogba, Zakoli, Kpatia, Bini, Kushegu, Kamshegu, Cherifoyili, Sakpegu, Kpamang, Zagbang
Upper West	Nadowli	Ombo, Booduori, Kaleo, Nyugluu, Buu, Zambogu, Fian, Chebaa, Balienia, Tuore, Bussie, Wogu, Issa, Tabiasi, Kojokpere
	Wa West	Tampiene, Kangba, Dabo, Dorimo, Pase, Piisse, Kpantori, Diesie, Varimpere, Nyoli, Domagyile
Upper East	Binduri	Tetaku, Atuba, Agumsii, Tanbiguu, Nafkolga, Zeego, Apurimzua, Gumyoko, Azumsapeliga, Zaago, Baadabugu, Bazua, Koloko Tinjen, Yaligu No.1, Beka, Ghanal Yapola
	Bawku West	Sapelliga, Sapliga Galaka, Googo Sakpali, Lamboya Bazunde, Azupupunga, Kuboko Boya, Gumbo Goziesi, Tilli Azupuppunga, Kpantarigu

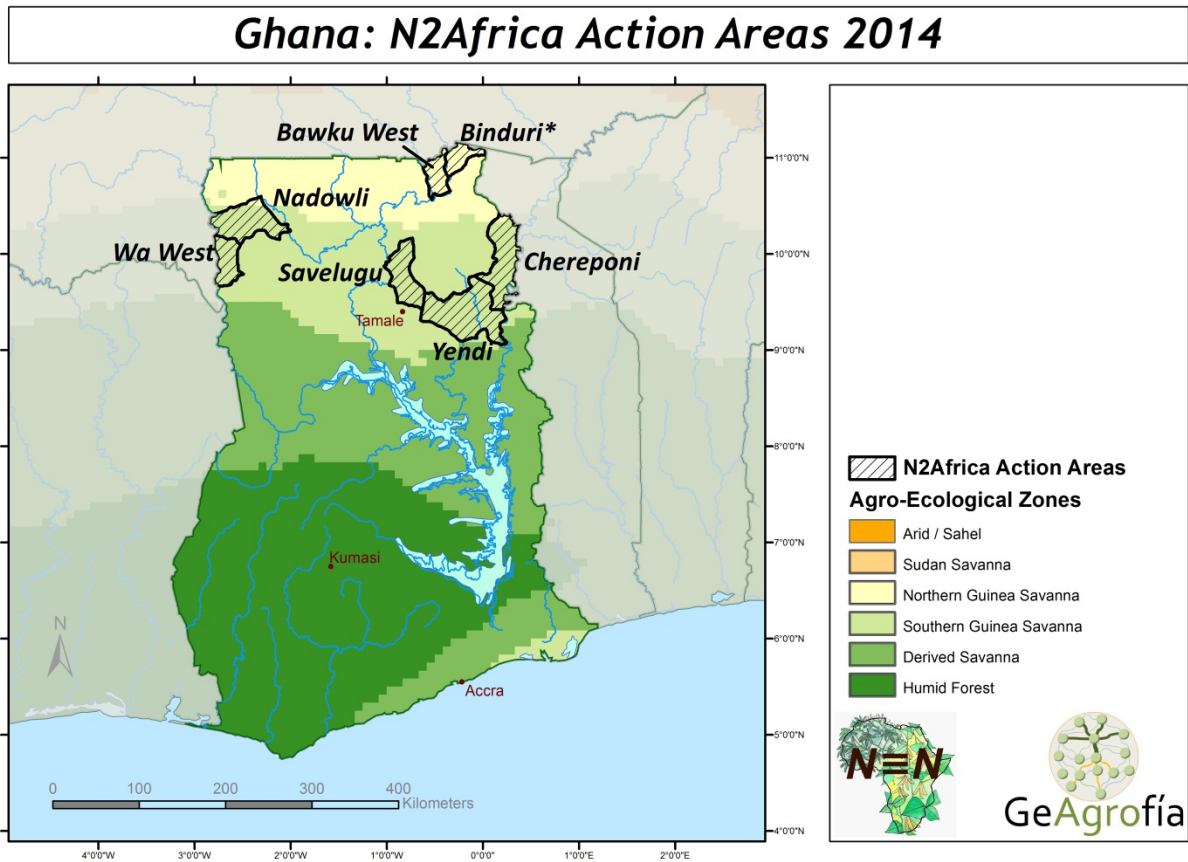


Figure 2. N2Africa Action Areas in Ghana in 2014.

*Binduri is a new district and forms part of the previous district of Bawku Municipality, no spatial dataset is publicly accessible for the new districts.



2.3 Action Areas for Nigeria in 2014

This map shows the N2Africa Action Areas for 2014 (Table 4), with the background of broad agro-ecological zones based on the length of growing period (Figure 3).

Table 4. N2Africa Action Areas in Nigeria Target regions in 2014

Target region (State)	Action Area (Local Government Area - LGA)	Site (Community / Village)
Borno	Bayo	Maina-Baba, Jauro-Garga, Briyel, Geidam. Telli, Wuyo
	Biu	Tum, Yamarkumi, Maina-Hari. Nzukuku, Miringa
	Hawul	Vinadam, Grim, Dusu, Kwaya-Bura, Tilla, Hema, Kayamda, Marama, Mbulatawiwi, Sakwa, Azare, Shaffa, Tashan-Alade, Shindiffu, Manjakwa, Ngwa, Yimirshika, Kinging, Ghuma, Kirbutu. Kwajaffa
	Kwayakusar	Wandali, Guwal, Gusi, Mithla, Peta, Gashina, Kurba-Gaye, Yimirhlalang
Kano	Bunkure	Gurjiya; Jallorawa; Marke; Kujirin; Falingo; Zanya; Kuluki; Zango Buhari and Doguwa Kanya
	Bichi	Badume; Yakassai; Sabo; Dangawo; Faras; Mangoron Gora; Muntisir and Jobe.
	Garko	Audiga; Danmaliki; Garwaji; Karfau; Corner garko, Sarina, Garko and Lamire
	Tudun wada	Yaryasa; Tarshar Inji; Damaga;Yar Maraya; Jammaje; Tarsha Gora;UngwarTudun Yar;Yasa and Marmara
	Doguwa	Dandoki; Dadin kowa; Ragada; Maigodo Yantama and Tagwaye.
Kaduna	Soba	Yakassai; Kinkiba/Baka; Tudun Saibu and Tudun wada.
	Igabi	Igabi; Turunku; Farakwai and Zango aya
	Lere	Yarkasuwa; Kayarda; Sabonbrini and Saminaka
	Zango kataf	Madakiyya; Magamiyya; Gan-Gora and Undwar wakili
	Kajuru	Kasuwa magani; Rimau; Dutsen gaiya and Kufana
Niger	Bosso	Dubbo; Pompo; Garatu; Popoi; Gussai; Lapai and Gwari
	Paikoro	Selefu; Kopkango; Yandayi; Kwanayi; Koropka; Yidna and Lumpa
	Shiroro	Kukulu; Shakwatu; Shakwodna; Kwakwa and Awasha

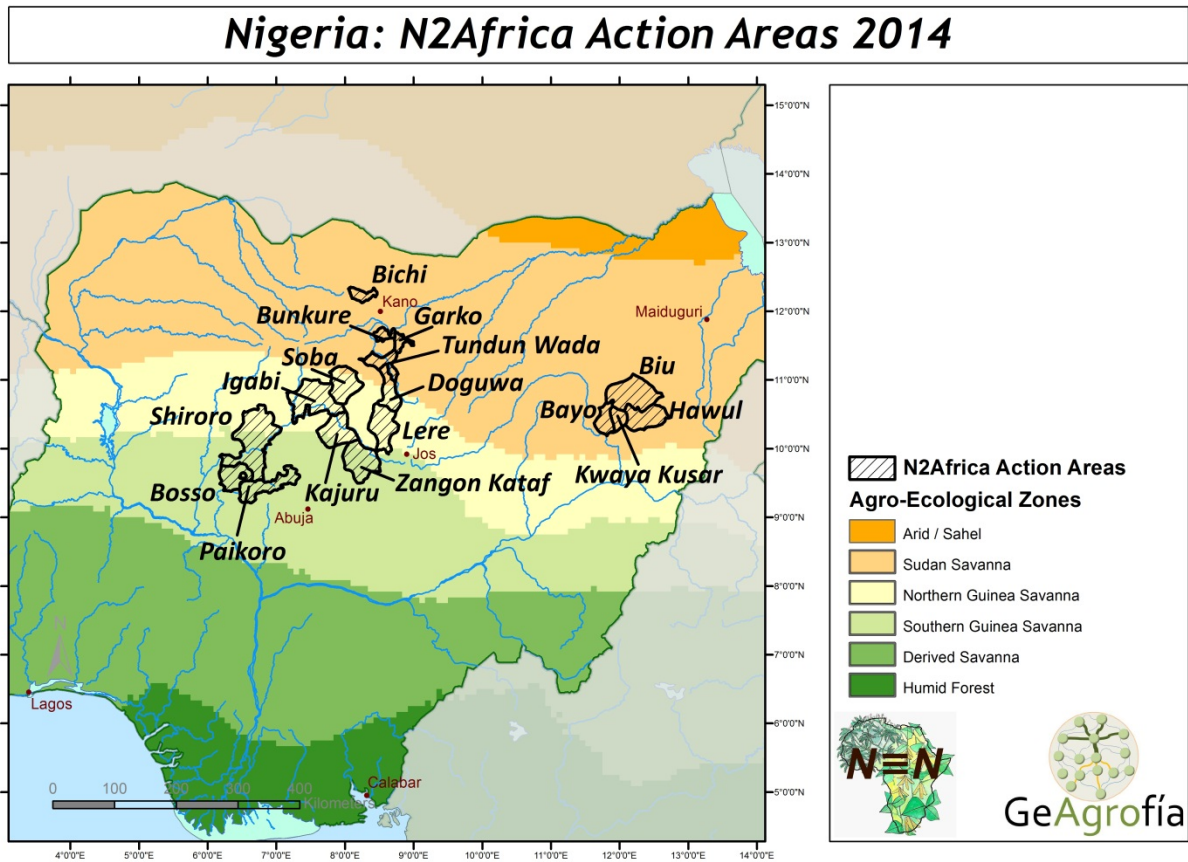


Figure 3. N2Africa Action Areas in Nigeria in 2014



2.4 Action Areas for Tanzania in 2014

This map shows the N2Africa Action Areas for 2014 (Table 5), with the background of broad agro-ecological zones based on the length of growing period (Figure 4).

Table 5. N2Africa Action Areas in Tanzania Target regions in 2014

Target region (Zone)	Administrative region	Action Area (District)
Coast	Morogoro	Kilosa
		Mvomero
Central	Dodoma	Kongwa
Northern	Arusha	Meru
	Kilimanjaro	Hai
		Siha
		Moshi rural
	Manyara	Kiteto
Tanga	Lushoto	
Southern	Mtwara	Masasi
	Mtwara	Nanyumbu
Southern Highlands	Iringa	Mafinga
		Kilolo
	Mbeya	Mbeya rural
		Mbozi
	Njombe	Njombe
		Ludewa
	Ruvuma	Songea rural
		Namtumbo

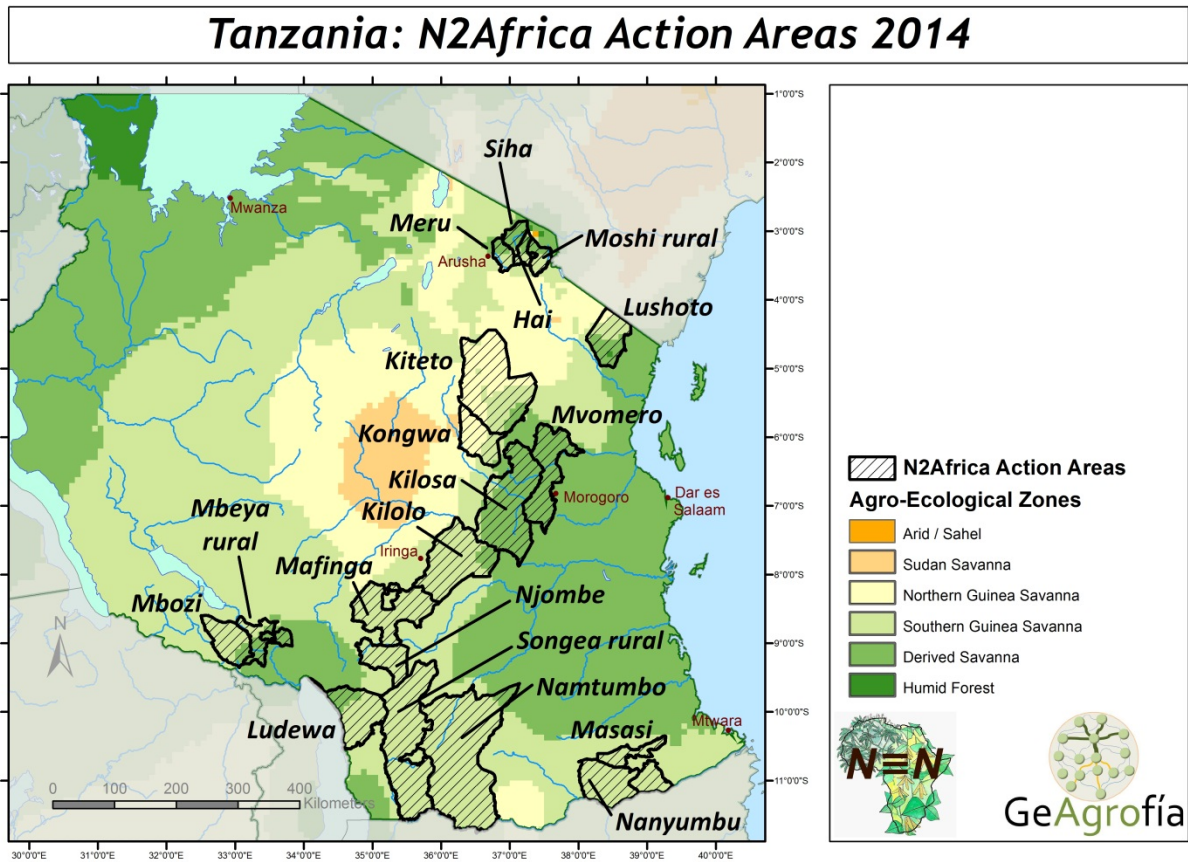


Figure 4. N2Africa Action Areas in Tanzania in 2014



3. Datasets

3.1 N2Africa Action Areas for Ghana, Ethiopia and Nigeria

3.1.1. Source

GADM database of Global Administrative Areas

<http://gadm.org/>

3.1.2. General properties

<Data_Source>

Data Type: Shapefile Feature Class

Shapefile: SPATAL DATA PATH \Global\Socioeconomic\Admin boundaries\GADM\gadm2.shp

Geometry Type: Polygon

Geographic Coordinate System: GCS_WGS_1984

Datum: D_WGS_1984

Prime Meridian: Greenwich

Angular Unit: Degree

3.2 N2Africa Action Areas for Tanzania

3.2.1. Source

The original GADM database of Global Administrative Areas was modified to show only subnational (level 2) for Tanzania which are districts in GADM, but the districts have been changed so instead a dataset from the Tanzanian National Bureau of Statistics (NBS, 2012) was used. This is a dataset of 2012 ward boundaries which was aggregated using the district name to give a 2012 district dataset.

3.2.2. General properties

<Data_Source>

Data Type: Shapefile Feature Class

Shapefile: SPATAL DATA PATH \Africa\Pais\Tanzania\NBS\2012 Wards
Shapefiles\TZdists_2012_WGS84.shp

Geometry Type: Polygon



Geographic Coordinate System: GCS_WGS_1984

Datum: D_WGS_1984

Prime Meridian: Greenwich

Angular Unit: Degree

3.3 N2Africa Action Areas for Uganda

3.3.1. Source

The original GADM database of Global Administrative Areas was modified to show only subnational (level 1) for Uganda which are districts in GADM, but the districts have been changed so instead a dataset from the Ugandan National Bureau of Statistics (UBOS, 2010) was used. The district boundary shape file is based on 2006 data provided by Ugandan Bureau of Statistics (UBOS), Government of Uganda. Agreed to share publicly and authorized by Geo-IM Working group chaired by UBOS and UNOCHA as Secretariat. The data set has been updated recently as Government of Uganda changed Admin boundaries to create some new districts in 2010.

3.3.2. General properties

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Data Type: Shapefile Feature Class

Shapefile: SPATAL DATA PATH \Africa\Pais\UGANDA\humanitarian\Uganda_districts2010
wgs84.shp

Geometry Type: Polygon

Geographic Coordinate System: GCS_WGS_1984

Datum: D_WGS_1984

Prime Meridian: Greenwich

Angular Unit: Degree

3.4 Agro-ecological zones

3.4.1. Source

The length of growing period data (van Velthuis et al., 2007) is available from IIASA / FAO from the GAEZ v3.0 Global Agro-ecological Zones data portal <http://webarchive.iiasa.ac.at/Research/LUC/GAEZv3.0/>



The data can be downloaded from the Agro-climatic resources growing period thematic area in the GAEZ data portal. The data used in this study is an average of data from 1961-1990.

3.4.2. Symbology

Table 7. Agro-ecological zones legend symbology

Length of growing period (days)	Label
0 - 70	Arid / Sahel
70 - 150	Sudan Savanna
150 - 180	Northern Guinea Savanna
180 - 210	Southern Guinea Savanna
210 - 270	Derived Savanna
270 -366	Humid Forest

Sub Saharan Africa Project Portfolio Integrated MTP for the Kano-Katsina-Maradi (KKM) Pilot Learning Site

AEZ definition

Sahel Savanna:

LGP 90-120 days; annual rainfall 300-500 mm

Sudan Savanna:

LGP 120-150 days; annual rainfall 500-800 mm

Northern Guinea Savanna:

LGP 150-180 days; annual rainfall 800-1100 mm

http://cgmap.cgiar.org/docsRepository/documents/MTPProjects/2007-2009/SSACP_2007-2009_1.PDF

3.4.3. General properties

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</Band_1>
</Statistics>
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References

Global Administrative Areas, 2012. GADM database of Global Administrative Areas, version 2.0. [online] Available at

www.gadm.org.

National Bureau of Standards, 2012. Shapefiles from 2012 Population and Housing Census of Tanzania - Level three. Available at

http://www.nbs.go.tz/nbs/index.php?option=com_content&view=article&id=526%3Ashapefiles&catid=117%3Ashapefiles&Itemid=118

Uganda Bureau of Statistics, 2010. Uganda District Shapefiles 2010 - Humanitarian Response. Available at

<http://www.humanitarianresponse.info/operations/uganda/dataset/uganda-admin-level-3-boundaries>

van Velthuisen HT, Huddleston B, Fischer G, Salvatore M, Ataman E, Nachtergaele FO, Zanetti M, Bloise M, 2007. Mapping Biophysical Factors that Influence Agricultural Production and Rural Vulnerability. Environment and Natural Resources Series No. 11, FAO, Rome, Italy ISBN 978-92-5-105689-9. Available at

<http://www.fao.org/docrep/010/a1075e/a1075e00.htm>



List of project reports

1. N2Africa Steering Committee Terms of Reference
2. Policy on advanced training grants
3. Rhizobia Strain Isolation and Characterisation Protocol
4. Detailed country-by-country access plan for P and other agro-minerals
5. Workshop Report: Training of Master Trainers on Legume and Inoculant Technologies (Kisumu Hotel, Kisumu, Kenya-24-28 May 2010)
6. Plans for interaction with the Tropical Legumes II project (TLII) and for seed increase on a country-by-country basis
7. Implementation Plan for collaboration between N2Africa and the Soil Health and Market Access Programs of the Alliance for a Green Revolution in Africa (AGRA) plan
8. General approaches and country specific dissemination plans
9. Selected soyabeans, common beans, cowpeas and groundnuts varieties with proven high BNF potential and sufficient seed availability in target impact zones of N2Africa Project
10. Project launch and workshop report
11. Advancing technical skills in rhizobiology: training report
12. Characterisation of the impact zones and mandate areas in the N2Africa project
13. Production and use of rhizobial inoculants in Africa
18. Adaptive research in N2Africa impact zones: Principles, guidelines and implemented research campaigns
19. Quality assurance (QA) protocols based on African capacities and international existing standards developed
20. Collection and maintenance of elite rhizobial strains
21. MSc and PhD status report
22. Production of seed for local distribution by farming communities engaged in the project
23. A report documenting the involvement of women in at least 50% of all farmer-related activities
24. Participatory development of indicators for monitoring and evaluating progress with project activities and their impact
25. Suitable multi-purpose forage and tree legumes for intensive smallholder meat and dairy industries in East and Central Africa N2Africa mandate areas
26. A revised manual for rhizobium methods and standard protocols available on the project website
27. Update on Inoculant production by cooperating laboratories
28. Legume Seed Acquired for Dissemination in the Project Impact Zones
29. Advanced technical skills in rhizobiology: East and Central African, West African and South African Hub
30. Memoranda of Understanding are formalized with key partners along the legume value chains in the impact zones
31. Existing rhizobiology laboratories upgraded
32. N2Africa Baseline report
33. N2Africa Annual country reports 2011
34. Facilitating large-scale dissemination of Biological Nitrogen Fixation



35. Dissemination tools produced
36. Linking legume farmers to markets
37. The role of AGRA and other partners in the project defined and co-funding/financing options for scale-up of inoculum (banks, AGRA, industry) identified
38. Progress Towards Achieving the Vision of Success of N2Africa
39. Quantifying the impact of the N2Africa project on Biological Nitrogen Fixation
40. Training agro-dealers in accessing, managing and distributing information on inoculant use
41. Opportunities for N2Africa in Ethiopia
42. N2Africa Project Progress Report Month 30
43. Review & Planning meeting Zimbabwe
44. Howard G. Buffett Foundation – N2Africa June 2012 Interim Report
45. Number of Extension Events Organized per Season per Country
46. N2Africa narrative reports Month 30
47. Background information on agronomy, farming systems and ongoing projects on grain legumes in Uganda
48. Opportunities for N2Africa in Tanzania
49. Background information on agronomy, farming systems and ongoing projects on grain legumes in Ethiopia
50. Special Events on the Role of Legumes in Household Nutrition and Value-Added Processing
51. Value chain analyses of grain legumes in N2Africa: Kenya, Rwanda, eastern DRC, Ghana, Nigeria, Mozambique, Malawi and Zimbabwe
52. Background information on agronomy, farming systems and ongoing projects on grain legumes in Tanzania
53. Nutritional benefits of legume consumption at household level in rural sub-Saharan Africa: Literature study
54. N2Africa Project Progress Report Month 42
55. Market Analysis of Inoculant Production and Use
56. Identified soyabean, common bean, cowpea and groundnut varieties with high Biological Nitrogen Fixation potential identified in N2Africa impact zones
57. A N2Africa universal logo representing inoculant quality assurance
58. M&E Workstream report
59. Improving legume inoculants and developing strategic alliances for their advancement
60. Rhizobium collection, testing and the identification of candidate elite strains
61. Evaluation of the progress made towards achieving the Vision of Success in N2Africa
62. Policy recommendation related to inoculant regulation and cross border trade
63. Satellite sites and activities in the impact zones of the N2Africa project
64. Linking communities to legume processing initiatives
65. Special events on the role of legumes in household nutrition and value-added processing
66. Media Events in the N2Africa project
67. Launch N2Africa Phase II – Report Uganda



-
68. Review of conditioning factors and constraints to legume adoption and their management in Phase II of N2Africa
 69. Report on the milestones in the Supplementary N2Africa grant
 70. N2Africa Phase II Launch in Tanzania
 71. N2Africa Phase II 6 months report
 72. Involvement of women in at least 50% of all farmer related activities
 73. N2Africa Final Report of the First Phase: 2009-2013
 74. Managing factors that affect the adoption of grain legumes in Uganda in the N2Africa project
 75. Managing factors that affect the adoption of grain legumes in Ethiopia in the N2Africa project
 76. Managing factors that affect the adoption of grain legumes in Tanzania in the N2Africa project
 77. N2Africa Action Areas in Ethiopia, Ghana, Nigeria, Tanzania and Uganda in 2014



Partners involved in the N2Africa project



A2N



Bayero University Kano (BUK)



Caritas Rwanda



CIALCA
 Improving livelihoods



CIAT
 Centro Internacional de Agricultura Tropical
 International Centre for Tropical Agriculture



CLINTON FOUNDATION



CONCERN UNIVERSAL



CRS
 CATHOLIC RELIEF SERVICES
 faith. action. results.



CSIR
 COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH
 GHANA



Community Technology Development Trust



Diobass



Eglise Presbyterienne Rwanda



Embrapa



ETHIOPIAN INSTITUTE OF AGRICULTURAL RESEARCH



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ILRI
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Resource Projects-Kenya



SARI



SARCA



Sasakawa Global; 2000



taskscape ASSOCIATES LTD



Université Catholique de Bukavu



MIRCEN
 University of Nairobi



University of Zimbabwe



Urbanet



WAGENINGEN UNIVERSITY
 WAGENINGEN UR



WOCAN
 Women Organising for Change in Agriculture and NRM



World Vision